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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 10/028,571
Filing Date: December 20, 2001
Appellant(s): RAJKOTIA, PURVA R.

John T. Mockler
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed May 30, 2006 appealing from the Office action mailed July 12, 2005.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

6,061,565	INNES et al.	5-2000
6,489,923	BEVAN et al.	12-2002

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

The following is a repetition of the rejections found in final Office action mailed July 12, 2005.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 31-60 are rejected under 35 U.S.C. 103(a) as being unpatentable over Innes et al. (US Patent Number 6,061,565) in view of the Admitted Prior Art (cited hereinbelow), and further in view of Bevan et al. (US Patent Number 6,489,923).

NOTE (applicable to all claims): Present application's nomenclature and Innes et al.'s nomenclature is different. Care should be taken not to confuse the variables used. For example, present application's "D" is defined as one way travel time (a measurement of time; see page 17, lines 5-11), in contrast with Innes et al.'s "D" which is defined as the distance between a base station BTS 26 and a mobile station MS 16 (a measurement of length; see column 4, lines 10-15). To define time Innes et al. uses "t" or "τ" (tau). Some of Innes et al.'s definitions relevant to present discussion are (see column 3, line 58 to column 4, line 15):

speed of light = c
transmission time = t0

arrival time = t3
delay = σ
one way travel time = $\frac{1}{2}$ (t3 – t0 – σ) = $\frac{1}{2}$ ($\tau 1 + \tau 2$) = $\tau 1 = \tau 2$
two way travel time = $\tau 1 + \tau 2$ = t3 – t0 – σ
distance from BTS to MS = D = $\frac{1}{2}$ c (t3 – t0 – σ)

Regarding **claims 31, 38 and 45**, Innes et al. discloses a method, an apparatus and a base station including the apparatus (column 4, lines 49-50) for use in a wireless network communications system (Figure 4) including a plurality of base stations (BTS 26) and a plurality of mobile stations (MS 16) (column 2, lines 61-67; column 3, lines 15-20), the apparatus for determining a distance (Innes et al.'s "D") from a base station to a mobile station (column 3, lines 39-40; column 4, lines 14-16), the apparatus including:

a distance unit (MMSU 36 and/or PLC 38; see column 4, lines 42-43, 60-63) associated with said base station (BTS 26) wherein said distance unit is capable of:

obtaining a two way travel, wherein the two way travel time is a time of travel for a range signal to travel from the base station to the mobile station and to travel from the mobile station to the base station,

(note: the distance unit is capable of determining: *one way travel time = 1/2 [(two way travel time) - (delay)]*, or *one way travel time = 1/2 [(t3 – t0) – (σ)]*; (see Figure 3); obtaining a two way travel time by subtracting an arrival time (t3) of the range signal at the base station from the mobile station from a transmission time (t0) of the range signal from the base station to the mobile station; see column 3, line 64 to column 4, line 15)

determining a one way travel time ($\frac{1}{2}$ (t3 – t0 – σ) = $\frac{1}{2}$ ($\tau 1 + \tau 2$) = $\tau 1 = \tau 2$; see Figure 3) of a signal from said base station to said mobile station; and

multiplying said one way travel time by the speed of light (c) to obtain said distance ($D = \frac{1}{2} c (t3 - t0 - \sigma)$) from said base station to said mobile station (see column 4, lines 10-15).

Innes et al. explains in detail the invention at column 3, line 58 to column 4, line 16. With reference to Figure 3, a base station (BTS 26) starts transmission at an absolute time reference t0 (column 3, line 64-65). Mobile station (MS 16) receives the signal at a time t1 (column 3, line 65-66). A response from the mobile station to the base station is sent after a processing delay period σ at a time t2 (column 4, lines 2-7). The response is received at the base station at a time t3 (column 4, line 9). Consequently, one way travel time from the base station to the mobile station is $\tau 1 = t1 - t0$; and one way travel time from the mobile station to the base station is $\tau 2 = t3 - t2$. The delay period is $\sigma = t2 - t1$. On the assumption that the distance which may be traveled by the mobile station during the period σ is small then $\tau 1$ and $\tau 2$ are equal (one way travel time $= \tau 1 = \tau 2 = \frac{1}{2} (\tau 1 + \tau 2) = \frac{1}{2} (t3 - t0 - \sigma)$), while σ is small (column 4, lines 11-13). Therefore, if c is the speed of light, the distance from the base station to the mobile station is $D = \frac{1}{2} c (t3 - t0 - \sigma)$; see column 4, lines 14-16.

<u>However</u>, Innes et al. fails to specifically disclose that the delay (σ) is a random backoff defined as a time value of a chip length of a random backoff parameter of the mobile station as defined by applicant.

Nevertheless, Innes et al. defines the delay σ as the period of time between reception of the signal from BTS at a time t1 until transmission of the response from MS back to BTS starts at a time t2 (column 4, lines 2-8). This is a signal processing delay

(Figure 3). Then adds "an embodiment of the invention has been described above with reference to a GSM system, but it should be noted that the invention is also applicable to other type of cellular mobile radio system, including CDMA and TDMA" (column 5, lines 63-66).

The prior art admitted by applicant (the "Admitted Prior Art") disclosed on page 17, line 15 to page 18, line 22 teaches that the IS-95 CDMA standard (the "Standard") defines a random backoff as the time duration after which a mobile station starts transmission (page 18, lines 2-3) and equals a time value of a chip length (page 17, lines 18-19).

Following Innes et al.'s suggestion of applying their invention to a CDMA cellular mobile radio system, such as IS-95 CDMA, one of ordinary skill in the art would easily recognize that Innes et al.'s delay σ would be the counterpart of IS-95 CDMA standard's random backoff parameter.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to replace Innes et al.'s GSM delay σ by IS-95 CDMA standard's random backoff parameter, as suggested by Innes et al., in order to comply with the IS-95 CDMA standard, for the advantage of extending cellular mobile radio service to a greater number of customers.

<u>However</u>, Innes et al. and the Admitted Prior Art fail to specifically disclose that the distance unit is capable of adjusting a value of the travel time to correct for signal conditions causing a time difference in arrival of the range signal at the base station, as claimed.

In the same field of endeavor, Bevan et al. discloses a method and apparatus for adjusting a value of a travel time to correct for signal conditions causing a time difference in arrival of the range signal at the base station; the conditions causing the time difference being, for example: multipath and/or Doppler shift (column 2, lines 6-24; column 6, lines 20-24). For compensating for errors due to multipath and/or Doppler shift Bevan et al. teaches several techniques, any of which reads on the claimed adjusting step. See for example: multipath (subsections starting at column 13, line 62, and column 14, line 45) or Doppler shift (subsections starting at column 9, lines 16 & 54, and column 11, line 43). An advantage of Bevan et al. is to achieve accurate and precise positioning of mobile wireless receivers, including E-911 applications, and further meeting FCC E911 mandate in as many environments as possible; see column 3, lines 3-14.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to adjust the value of the two way travel time to correct for signal conditions causing a time difference in arrival of the range signal at the base station, in order to achieve accurate and precise positioning of mobile wireless receivers, including E-911 applications, and further meeting FCC E911 mandate in as many environments as possible, as suggested by Bevan et al.

Regarding **claims 32-33, 39-40, and 46-47**, Innes et al., the Admitted Prior Art, and Bevan et al. disclose everything claimed as applied above (see *claims 31, 38, and 45*). In addition, as explained above, Innes et al. teaches that the distance unit is capable of adjusting the value of the two way travel time to correct a time difference of a multipath signal or a Doppler shifted signal. See multipath (subsections starting at

column 13, line 62, and column 14, line 45) or Doppler shift (subsections starting at column 9, lines 16 & 54, and column 11, line 43).

Regarding **claims 34, 41, and 48,** Innes et al., the Admitted Prior Art, and Bevan et al. disclose everything claimed as applied above (see *claims 31, 38, and 45*). In addition, the distance unit is capable of obtaining the two way travel time by subtracting an arrival time (t3) of the range signal at the base station from the mobile station from a transmission time (t0) of the range signal from the base station to the mobile station (as explained in the preceding paragraphs; see column 3, line 64 to column 4, line 15).

Regarding **claims 35-36, 42-43, and 49-50,** Innes et al., the Admitted Prior Art, and Bevan et al. disclose everything claimed as applied above (see *claims 31, 38, and 45*). In addition, the Admitted Prior Art further teaches that in the IS-95 CDMA standard the random backoff parameter for the mobile station has a chip length value between zero chip lengths and five hundred eleven chip lengths; wherein a time value for one chip length value is eight hundred thirteen and eight tenths nanoseconds.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to choose the random backoff parameter for the mobile station with at a chip length value between 0 and 511 chip lengths and the time value for one chip length value at 813.8 ns, in order to comply with the IS-95 CDMA standard.

Regarding **claims 37, 44, and 51,** Innes et al., the Admitted Prior Art, and Bevan et al. disclose everything claimed as applied above (see *claims 31, 38, and 45*). In addition, the Admitted Prior Art discloses on page 21, lines 3-16 that for the duration of the random backoff equal to one chip = 813.8 ns (page 17, lines 15-22), this corresponds to a distance resolution of approximately 244-m (page 21, lines 10-12).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to obtain the location of the mobile station with a distance resolution of approximately 244-m in order to comply with the IS-95 standard, as suggested by Innes et al., and further to comply with FCC regulations.

Regarding **claim 52**, Innes et al., the Admitted Prior Art, and Bevan et al. disclose everything claimed as applied above (see *claim 45*). However, they fail to explicitly mention to determine the distance from the base station to the mobile station in less than ten seconds.

The prior art admitted by applicant (the "Admitted Prior Art") disclosed on page 21, lines 4-6 teaches that the speed of light (c) is 299,792,458 meters per second.

Innes et al. suggests a maximum separation between base station and mobile station of 35,456 meters (column 4, lines 35).

Innes et al. taught that distance = (speed of light) (time). See column 4, line 14.

Therefore, time = (distance) / (speed of light).

Consequently,

time = (35,456 m) / (299,792,458 m/s)

time = 0.11827 ms ; for one way of travel (double for two way of travel).

Since processing delay = σ = 1.73076 ms ; see column 4, line 8.

Total time required to determine the distance is

= 2 x (0.11827 ms) + 1.73076 ms

= 1.96730 ms; i.e. roughly 2 milliseconds.

Therefore, it is clear that 2 milliseconds is less than ten seconds as claimed.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to obtain the distance from the base station to the mobile station in less than ten seconds, because such speed is desirable, and because it flows from mathematical manipulation given Innes et al. and the Admitted Prior Art suggestions of speed of light and separation between base station and mobile station.

Regarding **claims 53 and 56,** Innes et al. discloses a method and an apparatus for use in wireless network communications system (Figures 4-5) including a plurality of base stations (BTS 26; BTS1-BTS3) and a plurality of mobile stations (MS 16), the apparatus for locating a mobile station in an area (40 - Figure 5; column 5, lines 23-29) between three base stations (BTS1-BTS3 - Figure 5), the apparatus including:

a distance unit (MMSU 36) associated with each of the three base stations (MMSU for BTS**1**, MMSU for BTS**2**, MMSU for BTS**3**; column 5, lines 1-25) wherein the distance unit is <u>capable of</u>:

obtaining a two way travel time, wherein the two way travel time is a time of travel for a range signal to travel from each respective base station to the mobile station and to travel from the mobile station to each respective base station (see explanation hereinbelow);

(note: the distance unit is capable of determining: *one way travel time = 1/2 [(two way travel time) - (delay)]*, <u>or</u> *one way travel time = 1/2 [(t3 – t0) – (σ)]*; (see Figure 3); obtaining a two way travel time by subtracting an arrival time (t3) of the range signal at the base station from the mobile station from a transmission time (t0) of the range signal from the base station to the mobile station; see column 3, line 64 to column 4, line 15)

determining/calculating a one way travel time ($\frac{1}{2}$ (t3 – t0 – σ) = $\frac{1}{2}$ (τ1 + τ2) = τ1 = τ2; see Figure 3) of a signal from each respective station to the mobile station where

one way travel time = 1/2 [(two way travel time) - (delay)], or

one way travel time = 1/2 [(t3 – t0) – (σ)]; (see Figure 3);

multiplying each respective one way travel time by the speed of light (c) to obtain each respective distance (D1, D2, D3; D = ½ c (t3 – t0 – σ)) from each respective base station to the mobile station (column 4, lines 10-15); and

identifying a location (position) of the mobile station within the area between the three base stations using the respective distances of the mobile station from the respective base stations (column 4, lines 62-63 and column 5, lines 23-26).

Innes et al. explains in detail the invention at column 3, line 58 to column 4, line 16. With reference to Figure 3, a base station (BTS 26) starts transmission at an absolute time reference t0 (column 3, line 64-65). Mobile station (MS 16) receives the signal at a time t1 (column 3, line 65-66). A response from the mobile station to the base station is sent after a processing delay period σ at a time t2 (column 4, lines 2-7). The response is received at the base station at a time t3 (column 4, line 9). Consequently, one way travel time from the base station to the mobile station is $\tau 1$ = t1 – t0; and one way travel time from the mobile station to the base station is $\tau 2$ = t3 – t2. The delay period is σ = t2 – t1. On the assumption that the distance which may be traveled by the mobile station during the period σ is small then $\tau 1$ and $\tau 2$ are equal (one way travel time = $\tau 1$ = $\tau 2$ = ½ ($\tau 1$ + $\tau 2$) = ½ (t3 – t0 – σ)), while σ is small (column 4, lines 11-13). Therefore, if c is the speed of light, the distance from the base station to the mobile station is D = ½ c (t3 – t0 – σ); see column 4, lines 14-16.

For each one of the three base stations (BTS1, BTS2, BTS3 - Figure 5) a distance (D1, D2, D3) from each respective base station to the mobile station is determined using: D = ½ c (t3 – t0 – σ); see column 4, lines 14, 60-67 and column 5, lines 1-29. D1, D2, D3 are processed to determined the location of the mobile station (column 4, lines 62-63 and column 5, lines 23-26).

<u>However</u>, Innes et al. fails to specifically disclose that the delay (σ) is a random backoff defined as a time value of a chip length of a random backoff parameter of the mobile station as defined by applicant.

Nevertheless, Innes et al. defines the delay σ as the period of time between reception of the signal from BTS at a time t1 until transmission of the response from MS back to BTS starts at a time t2 (column 4, lines 2-8). This is a signal processing delay (Figure 3). Then adds "an embodiment of the invention has been described above with reference to a GSM system, but it should be noted that the invention is also applicable to other type of cellular mobile radio system, including CDMA and TDMA" (column 5, lines 63-66).

The prior art admitted by applicant (the "Admitted Prior Art") disclosed on page 17, line 15 to page 18, line 22 teaches that the IS-95 CDMA standard (the "Standard") defines a random backoff as the time duration after which a mobile station starts transmission (page 18, lines 2-3) and equals a time value of a chip length (page 17, lines 18-19).

Following Innes et al.'s suggestion of applying their invention to a CDMA cellular mobile radio system, such as IS-95 CDMA, one of ordinary skill in the art would

easily recognize that Innes et al.'s delay σ would be the counterpart of IS-95 CDMA standard's random backoff parameter.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to replace Innes et al.'s GSM delay σ by IS-95 CDMA standard's random backoff parameter, as suggested by Innes et al., in order to comply with the IS-95 standard, for the advantage of extending cellular mobile radio service to a greater number of customers.

However, Innes et al. and the Admitted Prior Art fail to specifically disclose that the distance unit is capable of adjusting a value of the travel time to correct for signal conditions causing a time difference in arrival of the range signal at the base station, as claimed.

In the same field of endeavor, Bevan et al. discloses a method and apparatus for adjusting a value of a travel time to correct for signal conditions causing a time difference in arrival of the range signal at the base station; the conditions causing the time difference being, for example: multipath and/or Doppler shift (column 2, lines 6-24; column 6, lines 20-24). For compensating for errors due to multipath and/or Doppler shift Bevan et al. teaches several techniques, any of which reads on the claimed adjusting step. See for example: multipath (subsections starting at column 13, line 62, and column 14, line 45) or Doppler shift (subsections starting at column 9, lines 16 & 54, and column 11, line 43). An advantage of Bevan et al. is to achieve accurate and precise positioning of mobile wireless receivers, including E-911 applications, and further meeting FCC E911 mandate in as many environments as possible; see column 3, lines 3-14.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to adjust the value of the two way travel time to correct for signal conditions causing a time difference in arrival of the range signal at the base station, in order to achieve accurate and precise positioning of mobile wireless receivers, including E-911 applications, and further meeting FCC E911 mandate in as many environments as possible, as suggested by Bevan et al.

Regarding **claims 54 and 57**, Innes et al., the Admitted Prior Art, and Bevan et al. disclose everything claimed as applied above (see *claims 53 and 56*). In addition, as explained above, Innes et al. teaches that the distance unit is capable of adjusting the value of the two way travel time to correct a time difference of a multipath signal or a Doppler shifted signal. See multipath (subsections starting at column 13, line 62, and column 14, line 45) or Doppler shift (subsections starting at column 9, lines 16 & 54, and column 11, line 43).

Regarding **claims 55 and 59**, Innes et al., the Admitted Prior Art, and Bevan et al. disclose everything claimed as applied above (see *claims 53 and 56*). In addition, the invention further includes:

providing the respective distances of the mobile station from the respective base stations to a calculator unit (PLC 38) not located within the three base stations (column 4, lines 49-50, 60-63); and

calculating in the calculator unit a location of the mobile station from the respective distances of the mobile station from the respective base stations (see column 4, lines 41-67 and column 5, lines 1-29; see also claims 1 and 3 of Innes et al.).

Regarding **claim 58**, Innes et al., the Admitted Prior Art, and Bevan et al. disclose everything claimed as applied above (see *claim 56*). In addition, the Admitted Prior Art discloses on page 21, lines 3-16 that for the duration of the random backoff equal to one chip = 813.8 ns (page 17, lines 15-22), this corresponds to a distance resolution of approximately 244-m (page 21, lines 10-12).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to obtain the location of the mobile station with a distance resolution of approximately 244-m in order to comply with the IS-95 standard, as suggested by Innes et al., and further to comply with FCC regulations.

Regarding **claim 60**, Innes et al., the Admitted Prior Art, and Bevan et al. disclose everything claimed as applied above (see *claim 56*). In addition, the apparatus further includes:

a calculator unit (PLC 38) coupled to said three base stations (see Figure 4) but not located within said three base stations (column 4, lines 49-50), said calculator unit capable of receiving from said three base stations said respective distances of said mobile station from said respective base stations (column 4, lines 60-63);

wherein said calculator unit is capable of calculating a location of said mobile station from said respective distances of said mobile station from said respective base stations (see column 4, lines 41-67 and column 5, lines 1-29; see also claims 1 and 3 of Innes et al.).

(10) Response to Argument

APPELLANT'S ARGUMENTS:

(1) Appellant's Introductory Argument (pages 6-9): First summarizes Appellant's interpretation of the applied prior art. Then continues to argue the rejection found in the final Office action beginning with claim 31 on page 9.

(2) Argument regarding claim 31 (pages 9-14): With reference to Innes et al., Appellant argues that "neither MMSU 36 or PLC 38, alone or in combination, provide the distance unit required by claim 31" (page 10, fourth paragraph). Then continues to argue this is because the required random backoff parameter is not found in Innes et al. (page 11) and that "Applicants find that Innes discloses a known fixed delay of period (σ)" (page 11, fourth paragraph). In support to this contention Appellant then challenges the fact that Innes et al.'s GSM delay σ can be replaced by IS-95 CDMA standard's random backoff parameter as explained in the final Office action (page 11, fifth paragraph to page 12). Finally, Appellant argues Bevan et al. does not meet the required adjustment because "Bevan does not disclose or suggest adjusting the value of a two way travel time" (pages 13-14, particularly page 14, second full paragraph). Appellant concludes hindsight has been applied (page 14, fourth full paragraph; also page 9, last paragraph).

(3) Argument(s) regarding claims 32-60 (pages 15-17): Appellant argues same arguments above. Arguments are repetitive.

- Regarding claims 32-37 (pages 15-17): Appellant argues same arguments above because of their dependency.

- Regarding claim 38 (page 18): Appellant argues same arguments above because same rationale for claims 31 has been applied.
- Regarding claims 39-44 (pages 18-21): Appellant argues same arguments above because of their dependency.
- Regarding claim 45 (page 21): Appellant argues same arguments above because same rationale for claim 31 has been applied.
- Regarding claims 46-52 (pages 21-24): Appellant argues same arguments above because of their dependency.
- Regarding claim 53 (pages 25-30): Appellant argues substantially the same as explained for claim 31. Arguments are repetitive.
- Regarding claims 54-55 (pages 30-31): Appellant argues same arguments above because of their dependency.
- Regarding claim 56 (pages 31-32): Appellant argues same arguments above because same rationale for claims 53 has been applied.
- Regarding claims 57-60 (pages 32-34): Appellant argues same arguments above because of their dependency.

(4) Argument regarding grouping of claims (page 35): Appellant argues the claims on appeal do not stand or fall together because have been separately argued.

(5) Remarks concerning notice of non-compliance (pages 35-40): Appellant explains changes presented to overcome previous notice of non-compliance.

EXAMINER'S RESPONSE:

(1) Appellant's introductory argument is without more Appellant's interpretation of the applied prior art. The arguments regarding particular claims are addressed below.

(2) Appellant's essential argument regarding claim 31 is that Innes et al.'s GSM delay σ can not be replaced by IS-95 CDMA standard's random backoff parameter because "Innes does not specifically reference IS-95 CDMA" (page 12, first full paragraph). Consequently, Appellant's conclusion is that neither MMSU 36 or PLC 38, alone or in combination, provide the distance unit required by claim 31.

At the outset, it should be noted that the rejection is based on a combination of references, not based on Innes et al. alone. Nevertheless, Innes et al.'s MMSU 36 or PLC 38, alone or in combination, provide the distance unit required by claim 31 because as explained in page 3 of the final Office action Innes et al. teaches that MMSUs 36 collect the distance information and supply it to PLC 38 where it is processed in order to determine the location of each mobile unit (column 4, lines 60-63 of Innes et al.). The claimed distance unit is no more than "capable of" performing the recited functionality. The sections cited in the final Office action is evidence that the distance unit is in fact "capable of" performing the recited functionality.

Innes et al.'s GSM delay σ can be replaced by IS-95 CDMA standard's random backoff parameter because, as explained the final Office action, the very same Innes et al. does suggest such change.

In order to facilitate understanding as to why IS-95 CDMA standard's random backoff parameter is the counterpart of Innes et al.'s GSM delay σ the following clarification is made:

- Applicant defines random backoff parameter in page 19, lines 13-15 of the original specification as representing the time offset after which a mobile station starts a transmission. (This is a processing delay just before beginning transmission).
- Innes et al.'s delay σ is a processing delay period that occurs between the time an inquiry/signal is received and a response/signal is transmitted (Innes et al., column 4, lines 2-7, as explained in the final Office action, pages 3-4).

Innes et al. teaches that the disclosed invention is also applicable to other type of cellular mobile radio systems, <u>including CDMA</u> (column 5, lines 63-66). A random backoff parameter as claimed is a particular requirement of IS-95 CDMA standard (as evidenced by the applied Admitted Prior Art) and is the counterpart of Innes et al.'s GSM delay σ (as explained in the final Office action). Consequently, in order to implement Innes et al.'s invention using CDMA technology one of ordinary skill in the art would easily recognize that Innes et al.'s GSM delay σ would have to be replaced by IS-95 CDMA standard's random backoff or at least complemented with the former for the advantage of extending cellular mobile radio service to a grater number of customer and for obtaining a more accurate distance calculation.

In response to Appellant's argument regarding Bevan, the conditions that affect the claimed signal are the same conditions that affect any signal traveling through the same space. Any signal is affected by the same conditions, such as Doppler and multipath. It is well known in the art to compensate for those undesirable conditions, and

Bevan et al. is just evidence of the fact. Appellant has found other advantages of Bevan et al. that are independent to outstanding rejection and do not, without more, weigh against the obviousness of the claimed invention. Bevan et al. teaches that the argued bearing is estimated by measuring round trip delay of signals to and from the mobile station (abstract). Errors in measuring signal round-trip delay are a fact recognized by Bevan et al. (column 1, line 45). It is an object of Bevan et al.'s invention to compensate for these errors as explained in the final Office action.

Regarding Appellant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

(3) Appellant's essential arguments regarding claims 32-60 are repetitive and redundant. Same explanation above is applied and incorporated herein by reference. Appellant's arguments amount to a general allegation that the claims define a patentable invention without specifically pointing out how the language of the claims patentably distinguishes them from the references.

(4) In response to Appellant's contention that the claims on appeal do not stand or fall together because have been separately argued, it is observed that the same arguments are without more repeated time after time; therefore, redundant.

(5) Concerning the notice of non-compliance, Appellant's changes and explanations are persuasive and consequently the brief filed 05/30/2006 is considered compliant. The evidence appendix and related proceedings appendix can be found in the letter filed 02/14/2006. See MPEP 1205.03

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

8/4/06
ELISEO RAMOS-FELICIANO
PRIMARY EXAMINER

ERF/erf
August 4, 2006

Conferees:

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